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ABSTRACT

Many television viewers construct their social reality from media content as well as from sensory and interpersonally communicated information. One aspect of this media-influenced social reality is television viewers' estimates of crime in society, or their fear of criminal victimization. Several media-effects studies have demonstrated the cultivation of perceptions of criminal victimization. Gerbner's cultivation hypothesis states that television content, unlike print and film media, is stereotypical and incongruent with the observable world. For Gerbner, the discrepancy between television content and "real world" content results in two separate realities, and the reality which guides an individual's orientation to the world depends on the amount of television viewed. Individuals who repeatedly see characters like themselves depicted as victims in violent encounters are said to be more apprehensive about their chances of becoming victims. Two of Gerbner's reformulations of the cultivation hypothesis--mainstreaming and resonance--investigate contributory conditions in which cultivation effects are likely to occur. Other studies of the cultivation effect consider the aspects of age, total viewing time versus the amount of violence viewed, the relationship between television viewing and anxiety, and the conceptual difference between fear of victimization and the probability of being victimized. (Seventy-one references are appended.) (MM)

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Media-Cultivated Perceptions of Criminal Victimization

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Presented at the annual meeting of the Central States Speech Association, Schaumburg, IL, April 15, 1988

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NIMH CONCLUSION NO. 4

Television has been shown to cultivate television-influenced attitudes among viewers. Heavy viewers are more likely to be more fearful and less trusting of other people than are light viewers as a result of their exposure to television.

ABC RESPONSE:

The research does not support the conclusion that television significantly cultivates viewer attitudes and perceptions of social reality.

American Broadcasting Companies (ABC), 1983, p. 3.

The impact of mass communication on individuals' cognitions, emotions, and behaviors can be traced to the early part of the twentieth century. During the past 60 years, the film, radio, newspapers, comic books, and especially television have produced effects that have been perceived as both powerful and weak, depending on historical context (e.g., Lowery & DeFleur, 1988).

Several theories have been advanced to account for these consequences of media consumption. A few examples include Lippmann's (1922) early description of media-influenced social reality in which he described how the press mediates between the "would outside" and "the pictures in our heads." Technological determinism, the content-free effect of media technology on society, is a recurring theme in the work of Innis (e.g., 1950) and McLuhan (e.g., 1964). Cohen (1963) noted that the press is often better at influencing readers' perceptions of the importance of topics than at influencing their opinions about those topics--an early statement of the agenda-setting hypothesis (see McCombs & Shaw, 1972). During the 1960s Bandura, Berkowitz, and Feshbach advanced theories to explain the influence of televised violence on aggressive behavior (see Liebert & Sprafkin, 1988, for an overview of the many studies generated by

these and other theorists). Gerbner's theory of media enculturation, a reformulation of the violence-aggression hypothesis, describes how disparate publics are drawn into the television mainstream (e.g., Gerbner, Gross, Morgan, & Signorielli, 1986).

For many viewers, the information disseminated by media becomes a source of information about the world. These viewers use media content as an ingredient in their constructions of social reality, just as they use sensory and interpersonally communicated information. Although the cognitive mechanisms associated with construction based on media content are not fully understood (e.g., Hawkins, Pingree, & Adler, 1987), the relationship between media use and the "pictures in our heads" has been demonstrated empirically in many studies.

Theories about the relationship between mass communication and individuals' constructions of social reality require quantitative measures of (1) media content, (2) measures of respondents' media use, and (3) their perceptions about various facets of their environment, or their subjective social realities. Gerbner's cultural indicators research project also includes the study of media institutions and their production of messages. Hence, media enculturation research is three-pronged (Gerbner et al., 1986). One facet of media-influenced social reality is television viewers' estimates of crime in society or, at a higher level of construction, their fear of criminal victimization. The remainder of the paper is limited to this topic, although it should be noted that television is known to bias viewers' perceptions in many domains other than criminal victimization.

The Cultivation of Fear of Crime

Gerbner's work has influenced most communication research on media-influenced perceptions of criminal victimization. According to Gerbner, television violence is a dramatic, cultural lesson that reflects, demonstrates, and maintains a hierarchy of social control and power relationships. It is

probably the most widely known reformulation of the television viewing and aggression hypothesis of the 1970s (Morgan, 1983).

Gerbner (cited in McQuail, 1983) refers to his theory as the cultivation of dominant (stable and common) image patterns. It is also known as the cultivation hypothesis, the cultural effects hypothesis, and social paranoia. Gerbner believes that television content, unlike the content of print and film media, which he says are diversified, is stereotypical and incongruent with the observable, measurable world. He bases this position on comparisons between almost two decades of annual content analyses of prime-time network drama, and archival data such as crime statistics. Gerbner holds that the discrepancy between television content and the "real world" results in two separate realities: the reality associated with what people see on television, and the reality people encounter on a daily basis. Which reality guides an individual's orientation to the world depends, to a great degree, on the amount of television to which that person is exposed. According to Gerbner, the cultivation of shared conceptions of social reality among otherwise diverse publics a historically new and distinct consequence of living with television (Gerbner et al., 1986).

Gerbner (Gerbner et al., 1986) claims that cultivation is not simply a fancier word for effects. He writes that "the 'effects' of communications are not primarily what they make us 'do' but what they contribute to the meaning of all that is done--a more fundamental and ultimately more decisive process" (Gerbner, 1973, p. 568). Gerbner and Gross (1979) point out that, although they reject "opinion change" theories in favor of "cultivation" or "ritual" theories, ritual must be learned. They contend that people are born and grow up in a symbolic environment in which television cultivates stable images after some of its own patterns. But even though cultivation is not a synonym for effects, Gerbner says cultivation should not be confused with mere reinforcement either.

He says television neither simply creates nor reflects images, opinions, and beliefs. And which of these processes came first he believes to be misleading and irrelevant (Gerbner et al., 1986).

It seems clear from Gerbner's recent writings (Gerbner et al., 1986) that he sees cultivation analysis as a shift away from traditional media effects research. In sum, he sees it as a distinct approach to media research. He states that his decision to focus on what most viewers share--what virtually no viewer can escape--is methodologically appropriate to the age of television.

Gerbner posits two requirements assumed necessary for cultivation to occur. The first reflects the nature of television content--stereotypical and repetitive images that reflect conventional values, beliefs, and behaviors, and that are produced to the same set of market specifications. The second reflects the nature of the television audience, whose members habitually view the medium's uniform content. In other words, they watch television, not programs (Gerbner, Gross, Signorielli, Morgan, & Jackson-Beeck, 1979). Gerbner links cultivation to the sheer amount of television consumed. Hence, the independent or predictor variable is "amount." But he also pays considerable attention to specific types of televised content, notably violence. One of the implicit messages heavy viewers of television are said to receive from predominantly violent programming is an exaggerated belief that the world is a mean and scary place.

Operationally, he believes that for any existing group of individuals divided at the median on television use, the half that watches more television will tend to report perceptions of reality that are consistent with televised presentations, and the half that watches less television will tend to report perceptions of reality as reflected in "real life" situations based on archival data such as crime statistics. One way Gerbner expresses this difference is the "cultivation differential," equal to the percent of heavy viewers minus the

percent of light viewers who give the "television answer" to a questionnaire item in which a choice must be made between a "television" answer and a "real world" answer. Television is the agent that "cultivates" this inaccurate view of the world among "heavy" television users. Cultivation, therefore, is a television-effects hypothesis. Although there is little laboratory evidence in support of causality, regardless of how plausible a directional hypothesis may be, Gerbner has reported the findings of many surveys in which cultivation has been linked to heavy television viewing.

Gerbner's concern with televised violence, however, is not limited to the amount of time spent viewing. He is also interested in the nature of televised depictions of violence, which he expresses in terms of a measure he calls the "risk ratio." Risk ratios are calculated from percentages of characters in a given demographic subgroup who are portrayed on television as the perpetrators of violence, and the percentage from that same subgroup who are portrayed as victims of violence (Gerbner, Gross, Jackson-Beeck, Jeffries-Fox, and Signorielli, 1978). Morgan (1983) writes that:

> The power structure of the television world revealed through risk ratios is remarkably stable over time. Female characters in particular are more likely to be victims rather than perpetrators of violence; this is especially true for minority women. Lower-class characters, older people, and nonwhites are all more likely to come out on the bottom of violent interactions (p. 147).

Morgan (1983) found that cultivation of a heightened sense of danger and risk is strongly enhanced among viewers who see characters victimized when these characters appear to be similar to the viewers themselves. This is attributed to viewers' identification with characters on the "victim" end of the risk ratio (Gerbner et al., 1978). Individuals who repeatedly see characters like themselves depicted on the losing end of violent encounters are said to be more apprehensive about the chances that they will become victims of interpersonal violence. These representations of life lead to the formation of groups of

individuals with similar attitudes. And because of television's ubiquity, these individuals need not be in spatial proximity.

Representative Research

Measures of television content: The violence profile. Early criticisms of Gerbner's work centered on his content analyses of prime-time network television, one prong of his research program and a necessary component of cultivation analysis. Especially criticized was his violence index and the use of risk ratios, and his operationalizations of violence, which included multipliers to amplify the contribution of some components of violence whose rates typically were low.

Since Gerbner began his annual content analyses of violence in 1967, his findings have been remarkably consistent. For example, between 1967 and 1979 Gerbner found that between 70- to almost 90-percent of prime-time and weekend daytime programs contained violence. Also consistent over those years were the social groups that tended to be the victims of violence (Liebert, Sprafkin, & Davidson, 1982, pp. 106-109).

Much criticism of Gerbner's violence profile has centered on his coding scheme, which includes humorous acts and accidents. Gerbner and his associates engaged in a published debate with an industry representative from CBS regarding the violence index in 1977 (Blank, 1977b; The Cultural Indicators Research Team, 1977; Blank, 1977a; Gerbner, Gross, Jackson-Beeck, Jeffries-Fox, & Signorielli, 1977). The methodology associated with the violence index is extensively covered in Gerbner et al. (1978).

And Gerbner's violence measures are still controversial. About the 1985-1986 prime-time television season, he said, "This tide of violence representations is historically unprecedented and shows no real sign of receding" (Violence on TV, 1986, p. 46). In reply, CBS's George Schweitzer said, "The way he [Gerbner] counts violence is different from our way. He

counts Bugs Bunny slipping on a banana peel" (Violence on TV, 1986, p. 46). Interestingly, these quotes come from an article headlined "Violence on TV declines in 1986."

Measures of audience perceptions: Cultivation analysis. Toward the end of the 1970s, the focus of criticism shifted from the violence index to cultivation analysis, the third prong in Gerbner's research program. The literature associated with television and social reality has been reviewed by Hawkins and Pingree (1982) and more recently by Ogles (1987). These reviews chart television's influence on viewers' perceptions of social reality in many domains. The present review, however, is limited to studies that address the cultivation of fear of criminal victimization, or social paranoia.

By the late 1970s, replications of Gerbner's initial cultivation investigations, with accompanying criticisms of his ideas and methods, began to appear in the literature. Wober (1978) failed to replicate the "paranoid effect" of viewing violence among British viewers. In a large survey designed to be representative of the British population, Wober found no significant differences between heavy and light viewers' responses to two "mean world" questions based on Gerbner's items. Gerbner, Gross, Morgan, and Signorielli (1979) responded to Wober, criticizing his rewording of the items, which Wober claimed was necessary to make them easily interpreted by British respondents.

Other researchers questioned the pervasiveness of the cultivation of fear. Doob and Macdonald (1979) found that the cultivation hypothesis was supported when questionnaire respondents were pooled across two Toronto neighborhood types varied factorially by police-reported crime rates in those neighborhoods. But when they controlled for the actual level of crime in the neighborhoods, the overall relationship between viewing television violence and fear of crime disappeared. The cultivation hypothesis was supported in the high-crime, city subgroup only. These results indicated a weakness in the global cultivation

hypothesis, and suggested a need to investigate contingent and contributory conditions in which cultivation effects are likely to occur (cf. McLeod & Reeves, 1980).

The Doob and Macdonald study was quite damaging to the cultivation hypothesis. But it was extremely important because it redirected the way that cultivation came to be conceptualized. It appears that the cultural indicators group specifically addressed Doob and Macdonald's findings in the following year's violence profile by positing two reformulations of the cultivation hypothesis: mainstreaming and resonance (Gerbner, Gross, Morgan, & Signorielli, 1980a).

Mainstreaming. The most important reformulation is mainstreaming, a term that Gerbner uses to describe a commonality of attitudes among heavy viewers of television in demographic groups whose light viewers hold divergent attitudes. The mainstreaming effect of television is a convergence of views among heavy viewers in various social subgroups. These persons' views would be divergent in the absence of television, or based on factors and social forces associated with subgroup membership alone. Heavy television use brings these divergent groups "into the mainstream." Mainstreaming, therefore, can be described as the role that television, as a cultural medium, plays in reducing social differentiation (Morgan, 1986).

Cook, Kendzierski, and Thomas (1983) believe that mainstreaming is an acknowledgement on Gerbner's part of shrinking correlations resulting from multiple control variables applied simultaneously. They describe mainstreaming as a statistical interaction between level of viewing and group membership. And they further state that mainstreaming has replaced the global cultivation hypothesis. But heavy viewing cannot have a "mainstreaming" effect on individuals in social groups who already hold attitudes that are congruent with the television mainstream. To account for these individuals, Gerbner developed

another reformulation.

Resonance. Resonance refers to "special cases" when reality and the world of television converge, which, for example, might happen to heavy viewers of violent television content who, live in high-crime neighborhoods. When such conditions occur, individuals are said to get a "double dose" of messages which in turn enhances cultivation.

Hirsch (1981b) has questioned these reformulations, calling them ambiguous, untestable, and irrefutable. But Cook et al. (1983) state that the mainstreaming hypothesis is more credible (though more modest) than Gerbner's earlier, global assertions about cultivation.

Other studies. Hawkins and Pingree (1980) successfully replicated the cultivation effect in Australia. They found, however, that although the cultivation of beliefs in a mean and scary world was not limited to a specific type of televised content, the relationship was not found among all respondents. More than 1,000 students participated in this study, drawn from grades two, five, eight, and eleven. The cultivation relationship was found only for respondents in the eighth and eleventh grades (adolescents). The authors suggest that perhaps certain cognitive abilities are necessary conditions for cultivation. Nevertheless, Roberts (1985) found cultivation effects for adults, but not for adolescents in a large-scale Florida survey.

In addition to criticizing the mainstreaming and resonance reformulations mentioned previously, Hirsch has pointed to the constraint of variance imposed by Gerbner's use of a median split to partition survey respondents into "heavy" and "light" viewing subgroups. In a two-part reanalysis of Gerbner's research on cultivation, Hirsch (1980b, 1981b) found that nonviewers' attitudes about a mean and scary world were higher than those of light viewers, and extreme viewers' attitudes were lower than those of heavy viewers. He concluded that the cultivation effect is neither linear nor monotonic, as implied by Gerbner's

hypothesis, but curvilinear. A similar finding was reported by Ogles, Bochnia, Gould, and Rodin (1986), who found higher correlations between time spent viewing programs with intermediate levels of violence compared to time spent viewing programs with very high levels of violence. Another problem with the median split noted by Hirsch and others is the incompatibility of results from survey to survey. A light viewer in one survey (based on splitting television use at the median) might be a heavy viewer in another survey.

Hirsch also criticizes Gerbner's failure to distinguish between total viewing time and the amount of violence viewed as measures of television viewing. Given Gerbner's contention that the symbolic portrayal of victims and victimizers contributes heavily to the cultivation effect, it would seem that the amount of violence viewed is the more appropriate measure. And this conclusion does not seem inconsistent with Gerbner's perspective, since his cultural indicators project appears primarily concerned with the amount of violence on television. Gerbner and his colleagues engaged in a published debate with Hirsch regarding his reanalysis and criticisms (Gerbner, Gross, Morgan, Signorielli, 1981a, 1981b; Hirsch, 1981a).

Another reanalysis of the Gerbner et al. findings was conducted by Hughes (1980). Using the same data set used by Gerbner's group, and including control variables ignored by Gerbner, Hughes failed to replicate the cultivation effect when controls were applied simultaneously. Hirsch (1980a) wrote that Hughes "laid bare" conceptual and methodological errors and ambiguities in Gerbner's work. Gerbner, Gross, Morgan, and Signorielli (1980b) responded to Hughes by pointing out that "no overall relationship" does not mean "no relationship," citing support for the hypothesis in certain subgroups (mainstreaming). But for meaningful testing of the cultivation hypothesis, these subgroups must be specified in advance.

Pingree and Hawkins (1980) reported that the viewing of imported U.S. crime adventure shows, a specific type of content, correlated with Australian children's concepts of the social reality of their own country. Their position was crystallized in an article by Hawkins and Pingree (1981b). In this study they concluded that, if anything, cultivation is strengthened if Gerbner's assumptions of ritual viewing and uniform messages are discarded. This further suggests that a fruitful approach might be to examine the effects of specific types of content, such as violence, cartoons, or soap operas on relevant social perceptions. It would seem, therefore, that cultivation effects could emerge as a result of extended exposure to content in any medium, including film, which certainly constitutes a significant portion of broadcast and cable television content.

In an experimental investigation, Bryant, Carveth, and Brown (1981) examined the relationship between television viewing and anxiety. They found that subjects exposed to a heavy television diet of action-adventure programs in which transgressions went unpunished (injustice) displayed greater anxiety than subjects exposed to a heavy diet of programs depicting justice or subjects in a light-viewing group. In addition, both heavy-viewing groups gave higher estimates of their likelihood of victimization than did the light-viewing group. The authors interpreted their data as support for Gerbner's basic cultivation hypothesis: Heavy viewing leads to fear of victimization. But apparently, this study was not designed to examine the impact of media violence per se. In fact, it is unclear whether the "transgressions" depicted in the programs were violent, although it seems likely that many of them were.

Tamborini, Zillmann, and Bryant (1984) exposed male and female undergraduates to four experimental television conditions: justice-depicting, injustice-depicting, crime documentary, and an episode of *The Love Boat* which served as the control condition. The justice-depicting and injustice-depicting

conditions were two differently edited versions of a movie made for television (*High Midnight*). Although the authors state that the crime documentary portrayed factual information about real-life social conditions dealing with crime, it was not clear whether these portrayals depicted justice or injustice.

Measures of anxiety and perceptions of crime were made immediately following exposure, and after a three-day delay. The results question the Bryant et al. (1981) cultivation interpretation. First, subjects in the injustice condition were more anxious immediately following exposure, but the effect dissipated after a three-day delay. Second, perceptions of crime victimization after the three-day delay were higher only for the documentary condition. Although Tamborini et al. admit that television affects crime estimates, they argue that these effects are limited by the dimensional structure of perceptions of crime and safety (e.g., personal- vs. societal-level estimates of criminal victimization, urban vs. rural places of residence). They reject a cultivation explanation of their findings, and those of Bryant et al., due to the transitory nature of the differences among the experimental groups. But since most viewers get a new dose of television each day, the accumulation of doses would resemble a cultivation effect. Their conclusion, therefore, may not be warranted.

Wakshlag, Vial, and Tamborini (1983) manipulated subjects' apprehension by showing them either a crime documentary (apprehensive condition) or a National Geographic documentary (control condition). They then allowed subjects to choose films to watch, from a list of films that varied in degree of depicted victimization and justice restoration. Subjects in the apprehensive condition chose films with less victimization and more justice restoration. These results partially support the cultivation hypothesis in that apprehension was induced by forced exposure to the crime documentary. But the authors caution that true cultivation must take into account the reasons subjects select certain media.

Ogles and Hoffner (1987) exposed male participants to either two or five commercially released R-rated films over a one- or two-week period. Compared to the two-film condition and a no-film control group (which did not differ), participants in the five-film condition reported significantly higher estimates of the likelihood of personal crime victimization. This finding is intriguing, since most (but not all) of the violence in the films was directed toward women. The authors suggest that the participants may have processed more deeply the events in which victims of violence were similar to themselves (i.e., men). Consistent with the availability heuristic (Tversky & Kahneman, 1973), these scenes may have come to mind later more easily than violent scenes showing women as victims.

Wakshlag, Bart, Dudley, Groth, McCutcheon, and Rolla (1983) found that crime drama was particularly physiologically arousing to viewers who were more (compared to viewers who were less) apprehensive about crime, based on a median split of participants' responses to 12 "apprehension of victimization" items. They hold that perhaps this enhanced excitement is all that is necessary for selective exposure to be pursued.

O'Keefe and Reid-Nash (1987) found practically no relationship between watching crime drama and viewers' fear of crime. But they did find that survey respondents who pay comparatively more attention to televised news reported being more fearful and more concerned with protecting themselves from victimization. This study suggests the need for additional work on the social reality effects of televised news.

A naturalistic study was conducted during the period following news coverage of the brutal murder of a University of Wisconsin freshman woman (Boyanowsky, Newtson, & Walster, 1974). Women residing in the victim's dormitory and women residing in another dormitory were given free tickets to see either *The Fox* (based on a work by D. H. Lawrence) or *In Cold Blood* (based on a

work by Truman Capote). Compared to women in the control dormitory, women in the victim's dormitory choose tickets to *In Cold Blood* significantly more. Likewise, for several days following the murder, attendance figures for *In Cold Blood* were significantly higher than those for *The Fox*.

Weaver and Wakshlag (1986) divided survey respondents into three groups: those who had direct personal experience with crime (they had been victims), those who had interpersonal experience with crime (they knew someone who had been victimized), and those who had experienced crime exclusively via the media. Correlations between crime-related television viewing and crime-related anxiety were significant only for respondents who reported that their experience with crime was limited to media depictions. Furthermore, Gerbner's "resonance" reformulation is not supported by these data, since knowledge of a friend or relative who had been victimized did not amplify television's impact on respondents' perceptions of personal vulnerability.

One issue not addressed in the previously discussed studies is the conceptual difference between fear of victimization and the probability of being victimized. Fear of victimization is seldom measured in cultivation studies. Instead, respondents typically estimate the likelihood of being involved in a crime, or they provide estimates of how safe they feel in their neighborhoods. Sparks, Ogles, Vavrus, and Spirek (1988) argue that there is a crucial difference between fear of victimization and the concepts that are typically measured in cultivation studies. In a random sample of two cities with differing crime rates, they asked respondents questions about both fear of victimization and the more traditional questions about the likelihood of being involved in a crime. The results supported the conceptual distinction between fear of victimization and probability estimates of victimization or estimates of safety.

Another facet of cultivation research relates television content and viewers' perceptions of the reality of this content. In general, perceptions of television reality decrease with age. Hawkins (1977) calls this tendency "adult discount," although he suggests that adult discount is multidimensional and possibly curvilinear in some dimensions.

In general, the effects of film presentations have been shown to be heightened when the presentations are perceived as real, and decreased when perceived as fantasy (e.g., Feshbach, 1972). Potter (1986) related three dimensions of perceived television reality (magic window, instruction, and identity) to the cultivation hypothesis. He found positive correlations between respondents' beliefs in a mean and violent world and their (1) perceptions of television as a magic window on reality (see Hawkins, 1977), (2) use of television for instruction, and (3) identification with characters on television.

Elliott and Slater (1980) found that as adolescents' viewing of crime drama increased, their perceptions of the reality of these dramatizations increased. This finding held for adolescents whose experiences with law enforcement were positive as well as for those who had been in trouble with the law. Slater and Elliott (1982) later conducted a cultivation analysis on these data, and found that perceived law enforcement program realism--not amount of law enforcement programming viewed--was correlated with the adolescents' acceptance of televised portrayals, their understanding of law enforcement, and their image of societal safety.

These findings suggest that viewers use specific information they learn from watching television as an intermediate step in inferring generalized beliefs about the world. Hawkins et al. (1987) tested this process hypothesis. They did not find empirical evidence of a learning effect, and they suggest that processes other than learning may account for the cultivation effect. Although

they did not explain the cultivation process, the study is nonetheless important because of its contribution to the understanding of how cultivation occurs (i.e., we know one process that does not work).

Moreover, Wober and Gunter (1982; see also Gunter, 1983) suggest that personality may affect media cultivation of fear. Based on data indicating that respondents' locus of control may account for many relationships attributed to cultivation, they believe that Gerbner's hypothesis can be subsumed under the more general locus of control concept (Rotter, 1965; Rotter, 1967), which may underlie both television viewing and the specific beliefs tapped by fear-of-victimization items. This position is based on differential effects of partialling out the Gerbner "fear" factor or the Rotter "fate" factor on the relationships of two other factors--cynicism and personal satisfaction--identified in a list of 15 questionnaire items. Partialling out scores on the Gerbner "fear" items reduced the associations between the cynicism and satisfaction factors and the number of programs watched to non-significance, but it did not substantially influence the relationship between the Rotter "fate" factor and television viewing.

Implications for Future Research

The cultivation of perceptions of criminal victimization has been demonstrated in many basic media-effects studies representing a variety of samples, operationalizations, and methods. Moreover, the literature reflects interest among numerous independent scholars. From these studies, we know much about where to locate the cultivation effect from charting studies, and less about the processes and mechanisms associated with constructing social reality from television. But it seems that an increasing number of researchers are offering post hoc cognitive explanations of cultivation findings. And even more encouraging are the few studies in which the construction process has been tested a priori.

Present evidence indicates that Gerbner's thesis is valid at least under certain conditions. But as Berkowitz (1984) notes, Gerbner's argument may be overstated. Using media violence as an example, Berkowitz finds that the evidence supporting the social paranoia hypothesis is not yet clear in situations where people are exposed to repeated scenes of violence in naturalistic settings. Unfortunately, new technology and the changing broadcast marketplace is likely to hamper cultivation research conducted in the field. For example, a relaxation of technical standards allowing a proliferation of full- and low-powered television stations has eroded the penetration, appeal, and power of the networks during a period that roughly parallels Mark Fowler's tenure as FCC chairman during the Reagan administration. During this same period, video recording and playback equipment has become affordable and commonplace in the home. Even though the increase in available channels and modes may be desirable, it is now much more difficult to conduct cultivation analyses. First, it is increasingly difficult to analyze television content. And second, it is increasingly difficult to measure television viewing. But ecologically valid measures of television viewing must not be assumed impossible to obtain. Diary analysis is one way to measure television in the video age, although the procedure is very labor intensive (the use of diaries in cultivation analysis is discussed at length in Ogles and Ogles, 1987). Ultimately the people meter may prove to be a viable alternative to diary analysis.

Because social reality effects have been conceptualized as resulting from long-term media use and life experiences, controlled laboratory experiments have been used much less often than surveys. But experiments have at least three advantages to surveys in media studies conducted in the "video age." First, they illuminate causation. The advantage of experimental evidence can be seen in the following statement by the Social Research Unit at ABC (American

Broadcasting Companies [ABC], 1983). "Although the cultivation research utilizes correlational techniques, the theory's proponents interpret the findings to suggest causality. As we have demonstrated earlier, correlation can not [sic] indicate cause and effect" (p. 13).

It should be noted that the research published by the Cultural Indicators Group has become increasingly sophisticated. Three years before the ABC publication appeared, Gerbner's group began using a sophisticated path analysis program (LISREL) to map probable causal chains in their correlational data (Gerbner et al., 1980a). This method allows for more complete explication of the causal structure and influences of variables associated with the cultivation hypothesis. But LISREL lacks the degree of internal validity possible with a true experiment. And even though controlled laboratory and field experiments provide the best evidence of causality, these designs have limitations and are subject to other criticisms.

For example, there are at least two plausible reasons why so few experimental cultivation analyses have been conducted. First, it is difficult to design an experiment in which the operationalizations convincingly reflect the cultivation concept. And, since experiments are better suited to measuring short-term effects, it could be argued that the experimental method is inappropriate for effects that might take years to become manifest.

Although it may not be possible to duplicate experimentally the long-term influence of heavy media use and measure cultivation directly, it is possible to manipulate media exposure (treatment levels) and measure short-term effects related to cultivation (crime estimations).

Furthermore, if these conditions and measures are logically linked to the concepts of media use and media-influenced constructions of social reality, it should matter little if an actual experiment resembles a corresponding field study in a mundane way. As long as the design allows for experimental realism,

logical and consistent links between the concepts and the operationalizations, it cannot be dismissed merely because of a lack of naturalism. Berkowitz and Donnerstein (1982) argue that it is not sufficient to dismiss an experiment because the operationalizations themselves are not directly generalizable. This is because generalizations are made from underlying theory and not from particular experiments, which represent specific operationalizations of theories.

Second, it could be perceived as unethical to randomly assign subjects to heavy vs. light media diets for long periods of time. Ethical Principle Nine of the American Psychological Association, dealing with human research participants, specifically states that investigators must protect participants from physical and mental discomfort, harm, and danger (Committee for the Protection of Human Participants in Research, 1982). This is typically accomplished by procedures designed to return participants to pre-experimental states.

Due to the excessively violent or sexual content of many commercially-released films and video tapes, their long-term use as experimental stimuli in cultivation studies, whether in whole or in short clips, raises serious ethical concerns (cf. Gross, 1983; Zillmann & Bryant, 1983). Obviously, the obligation to ensure research participants' physical and psychological welfare must be weighed against the human benefit of research.

In sum, the experimental method is appropriate to the study of processes and mechanisms which might ultimately explain how viewers construct meaning from television. But ecologically valid data-gathering methods also will be needed. If findings based on a variety of methods converge, thereby strengthening the cultivation hypothesis or articulating its contingencies, then a program of research on the nature of media-influenced perceptions of social reality will have contributed meaningfully to the scientific record.

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